THE EFFECT OF SELF-DISCLOSURE AND EMPATHIC RESPONDING ON INTIMACY: TESTING AN INTERPERSONAL PROCESS MODEL OF INTIMACY USING AN OBSERVATIONAL CODING SYSTEM

A Thesis

by

ALEXANDRA ELIZABETH MITCHELL

Submitted to the Office of Graduate Studies of
Texas A&M University
in partial fulfillment of the requirements for the degree of

MASTER OF SCIENCE

May 2006

Major Subject: Psychology

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Approved by:

Chair of Committee,	Douglas K. Snyder
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ABSTRACT

The Effect of Self-Disclosure and Empathic Responding on Intimacy: Testing an Interpersonal Process Model of Intimacy Using an Observational Coding System.

(May 2006)

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Intimacy is an important component of romantic relationships and a lack of intimacy is one of the most common presenting problems of distressed couples, but the process through which intimacy develops is not well understood. This study examined the evidence for the interpersonal process model of intimacy described by Reis and Shaver (1988), which proposes that self-disclosure and empathic responding are the basis of intimate interactions. The sample consisted of 108 community couples who completed measures of intimacy after having videotaped discussions about relationship injuries that occurred both within and outside of the relationship. The Couples' Intimate Behavior Coding System (CIB) was developed to assess depth of factual, emotional, and cognitive self-disclosure and components of empathic responding in these discussions. Results indicate that males' own disclosure and empathic responding predicted their feelings of intimacy, whereas females' intimacy was predicted by their partner's disclosure and empathic responding. The effects of both self- and partner-disclosure appear to have been driven by factual and emotional components of disclosure. These

results provide preliminary evidence that self-disclosure and empathic responding are important behaviors in the development of intimate feelings for both men and women, but the manner in which these behaviors influence intimacy differs by gender.

This thesis is dedicated to my family whose love and support have taught me the most important things I know about relationships.

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TABLE OF CONTENTS

Page

INTRODUCTION

Research has shown that intimacy is associated with both relationship satisfaction and individual psychological health and, as such, is an important component of romantic relationships. However, there is no consensus in the literature about how to define or conceptualize intimacy. Assessing couple behavior during couple interactions may lead to a better understanding of the development of intimacy. Previous research using observational coding systems to study couple behavior has focused on problem-solving or social support discussions. Research has not examined how couples behave when discussing relationship injuries that occurred both within and outside of the couple's relationship. Assessment of couple behavior during relationship injury discussions may improve our understanding of intimacy because these types of discussions are likely to elicit behavior associated with intimacy. The current study sought to enhance our ability to assess couple behavior through observational coding and further our understanding of intimacy by designing a coding system to assess couple behavior during relationship injury discussions and using these data to test an interpersonal process model of intimacy.

Importance of Intimacy

Research has shown that intimacy is an important component of relationships, especially romantic relationships. In a study of dating couples, intimacy was positively correlated with relationship satisfaction and was a significant predictor of whether

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This thesis follows the style of *Journal of Family Psychology*.

couples eventually married (Hill & Peplau, 1998). Greef and Malherbe (2001) found that emotional, sexual, intellectual, and recreational intimacy had a positive relation to marital satisfaction for both husbands and wives. Toldstedt and Stokes (1983) found that verbal, affective, and physical intimacy were significant predictors of marital satisfaction, but that verbal and affective intimacy were stronger predictors than was physical intimacy. Couples' reports of behaviors associated with intimacy, such as self-disclosure and acceptance of a partner's weaknesses, have also been found to be positively related to marital satisfaction (Merves-Okin, Amidon, & Bernt, 1991). A lack of intimacy is also a common complaint of distressed couples. Based on reports from marital therapists, Geiss and O'Leary (1981) found that 55% of couples seeking treatment identified a lack of loving feelings as a problem area. In a similar study, Whisman, Dixon, & Johnson (1997) identified a lack of intimacy as one of the most damaging problems in relationships and as the problem therapists found most difficult to treat. Whereas other researchers have focused on the importance of intimacy for relationship satisfaction, Prager and Buhrmester (1998) found that relational intimacy was also positively correlated with fulfillment of individual psychological needs. In a study of couples in which one person was diagnosed with depression, intimacy was also found to have an inverse relation to severity of depression (Waring & Patton, 1984). In summary, intimacy is related both to couples' relationship satisfaction and to the psychological health of individual partners and, therefore, is an important focus of research.

Definitions and Conceptualizations of Intimacy

Although intimacy is considered an important aspect of relationships, researchers have not reached a consensus about how to define or conceptualize intimacy. Intimacy can be thought of as both an individual characteristic that influences how a person relates to others and as an interactional construct in relationships. Researchers have also viewed intimacy as a relationship state and as a relationship process (Acitelli & Duck, 1987). Some researchers have focused on the types of intimacy that may exist in a relationship. Based on a review of intimacy literature, Moss and Schwebel (1993) proposed that intimacy has five components including commitment, affection, cognition, physicality, and mutuality. Schaefer and Olson (1981) created a measure to assess five types of intimacy in romantic relationships: emotional, social, sexual, intellectual, and recreational.

In contrast to identifying types of intimacy, other researchers have proposed models of the intimacy process, in which intimacy is the product of certain behaviors. Prager (1995) described intimate interactions as the basis for intimate relationships. She defined an intimate interaction as an exchange in which partners disclose private information, feel positively about themselves and each other, and believe the exchange conveys or increases understanding between the two people. Cordova and Scott (2001) described intimacy a process that develops from a sequence of events in which a speaker exhibits behavior that could result in interpersonal punishment, and the listener either does not punish this behavior or provides positive reinforcement in response.

Reis and Shaver (1988) proposed an interpersonal process model of intimacy, which is the focus of the current study. According to this model, intimacy occurs when the speaker self-discloses and the listener responds empathically. Reis and Shaver proposed that "disclosure of personal desires, fantasies, anxieties, and emotions" may result in higher levels of intimacy than "disclosure of mere facts" because the former type of disclosure gives the listener an opportunity to understand and respond to the speaker's core self (p. 376). Reis and Shaver identified the critical components of empathic responding as understanding, validation, and caring. Understanding is a prerequisite for communicating validation and caring, and consists of communicating an accurate perception of the behaviors, thoughts, and feelings disclosed by the speaker. Validation, a concept first described by Gottman, Markman, and Notarius (1977), involves communicating an acceptance of the speaker and his or her thoughts and feelings. A listener exhibits caring through the expression of concern for and liking of his or her partner.

Reis and Shaver (1988) described several factors that may influence this process. Both the speaker and the listener may have goals for the relationship, such as increasing or decreasing the intensity of the relationship, that influence their behavior. The speaker and the listener also have personal characteristics which serve to create an "interpretative filter" that influences their perception of the other's behavior (p. 378). In order for both people to experience intimacy, both the speaker and the listener must perceive that the speaker has disclosed and that the listener has responded empathically (Reis & Patrick, 1996). Reis and Shaver distinguish between intimate interactions, as detailed in their

model, and intimate relationships. An intimate relationship is viewed as more than the aggregate result of many intimate interactions; it is also shaped by factors such as the relationship history, the commitment of the two people, and the public recognition of the relationship (Reis & Shaver).

Research on the Interpersonal Process Model of Intimacy

Some researchers have examined Reis and Shaver's (1988) model specifically, and others, although not focusing directly on the interpersonal process model of intimacy, have studied behaviors included in the model. Although many of the studies examine similar or, ostensibly, the same behaviors, the definitions and measurements of these behaviors sometimes vary from study to study. It is important to examine the manner in which behaviors were defined and measured in each study in order to elucidate the questions that remain about the interpersonal process model of intimacy.

Laurenceau, Feldman Barrett, and Pietromonaco (1998) conducted two diary studies to test Reis and Shaver's (1988) interpersonal process model of intimacy. In both studies, they asked college students to complete self-report measures of self-disclosure, partner-disclosure, partner responsiveness, and perceived intimacy for each interaction they had with another person (not necessarily a romantic partner) that lasted at least 10 minutes. Self-disclosure was measured on a five-point Likert scale, with 1 indicating "very little" and 5 indicating "a great deal" (p. 1240). The limitation of this type of measurement of self-disclosure is that it is unclear whether it measures *frequency* or *depth* of self-disclosure. A "5," for example, may indicate that the individual felt he disclosed many details, or it could indicate that he disclosed one very personal detail.

In the first study, self-disclosure and partner-disclosure variables were formed by averaging the ratings of two items: how much was disclosed generally and how much emotion was disclosed. Both self-disclosure and partner-disclosure were significant positive predictors of intimacy. Partner responsiveness was defined as the extent to which the participant felt accepted by his or her partner, which differs from Reis and Shaver's (1988) description of empathic responding as including understanding, validation, and caring. Partner responsiveness was a partial mediator of the relation between disclosure and intimacy (Laurenceau et al., 1998).

In the second study, Laurenceau et al. (1998) broadened the definition of self-disclosure, defining it as the average of disclosure of facts, disclosure of thoughts, and disclosure of emotions. Self-disclosure was again found to be a significant predictor of intimacy. Partner-disclosure was defined as disclosure of thoughts and feelings, and was also a significant predictor of intimacy. The researchers also compared self-disclosure of facts to self-disclosure of emotions, and found that self-disclosure of emotions was a significant predictor of intimacy, whereas self-disclosure of facts was not. Disclosure of thoughts was not examined as a separate variable. In this second study, partner responsiveness more closely reflected Reis and Shaver's (1988) definition of empathic responding and measured the extent to which the partner exhibited understanding, acceptance, and caring. Partner responsiveness was again found to be a partial mediator of the relation between disclosure and intimacy. Although the partner responsiveness variables from the two studies were not compared statistically, the researchers reported that broadening the responsiveness variable in the second study to more closely reflect

Reis and Shaver's definition of empathic responding, appeared to increase its role as a partial mediator between self-disclosure and intimacy.

In summary, Laurenceau et al. (1998) found self-disclosure of emotions to be a significant predictor of intimacy, whereas self-disclosure of facts was not. It is not clear whether this study measured depth or frequency of disclosure. Partner responsiveness, defined both as "acceptance" and as "understanding, acceptance, and caring," was found to be a partial mediator between self-disclosure and intimacy, and it may have been a stronger mediator when it was defined to more closely reflect Reis and Shaver's (1988) definition of empathic responding.

Laurenceau, Feldman Barrett, and Rovine (2005) conducted a similar diary study but, whereas the previous study had examined self-disclosure and empathic responding between any two people, this study examined these behaviors in married couples. Both members of the couple were asked to complete measures of daily self-disclosure, partner-disclosure, perceived partner responsiveness, and intimacy. Self-disclosure was measured on a five-point Likert scale, with 1 indicating "very little" and 5 indicating "a great deal" (p. 1240). As previously noted, the limitation of this type of measurement of self-disclosure is that it is unclear whether it measures frequency or depth of self-disclosure. Self-disclosure and partner-disclosure variables consisted of an average of factual, emotional, and cognitive disclosure. For both husbands and wives, self-disclosure and partner-disclosure predicted feelings of intimacy. The measure of perceived partner responsiveness consisted of an average of understanding, validation, caring, and acceptance. This measure assessed all aspects of empathic responding as

defined by Reis and Shaver (1988), but also included acceptance in the empathic responding variable. Controlling for the effects of self- and partner-disclosure, higher levels of intimacy were predicted by higher levels of perceived partner responsiveness, and perceived partner responsiveness was found to partially mediate the effect of self- and partner-disclosure on intimacy.

Lippert and Prager (2001) also used a diary method to examine speaker disclosure, listener understanding, and intimacy. They asked cohabiting couples to complete self-report measures of disclosure, responsiveness, and intimacy for every interaction the couple had that lasted 5 minutes or longer. Self-disclosure of private information and self-disclosure of emotions were measured as separate behaviors. The participants used a four-point Likert scale to indicate how true it was in a particular interaction that they had disclosed something personal or private and disclosed feelings and emotions. Both disclosure of private information and disclosure of emotions were significant positive predictors of perceptions of intimacy, although it is not clear whether this study measured frequency, depth, or merely the presence of these types of disclosures. This study also measured perception of partner understanding. This variable was found to be a significant predictor of intimacy, with higher levels of perceived understanding predicting higher levels of intimacy. This study did not measure validation and caring, the other two components of empathic responding identified by Reis and Shaver (1988).

Manne, Ostroff, Rini, Fox, Goldstein, and Grana (2004) examined the interpersonal process model in couples in which one member had breast cancer.

Couples had two 10-15 minute discussions. One discussion focused on a general marital issue and the other on a cancer-related issue. Self-disclosure was rated on a seven-point Likert scale with 1 indicating "not at all" and 7 indicating "very much" (p. 592). As previously mentioned, this type of measure confounds frequency and depth of disclosure. The self-disclosure measure assessed disclosure of thoughts, feelings, and information. The partner-disclosure variable included one item that assessed disclosure of thoughts and feelings and another item which assessed disclosure of positive emotions. For cancer patients, partner-disclosure predicted feelings of intimacy, but self-disclosure did not. For patients' male partners, both partner-disclosure and self-disclosure predicted feelings of intimacy.

Perceived partner responsiveness was measured on a seven-point Likert scale with 1 indicating "not at all" and 7 indicating "very much" (Manne et al., 2004, p. 592). The variable assessed partners' understanding, caring, and acceptance, which varies slightly from Reis and Shaver's (1988) description of empathic responding as consisting of understanding, validation, and caring. Partner responsiveness partially mediated the association between disclosure and intimacy for both patients and their partners.

Grabill and Kerns (2000) conducted two studies of the relation of the behaviors described in the interpersonal process model of intimacy to attachment style. In the first study, college students completed self-report measures of attachment style, self-disclosure to one same-gender friend, and perception of others' empathic responding. The self-disclosure measure examined disclosure about a variety of topics including topics that were important to the participant and behaviors about which the participant

felt guilty. Participants used a five-point Likert scale to rate self-disclosure, with higher scores on the self-disclosure measure reflecting "more disclosure" (p. 366). The measure of empathic responding assessed all three of the components of empathic responding as defined by Reis and Shaver (1988). However, although the self-disclosure measure assessed disclosure to one particular individual, the empathic responding measure assessed a participant's perception of responding from others in general. Results indicated that secure individuals were more likely to self-disclose and to feel understood, validated, and cared for by others than were individuals with preoccupied, dismissing, or fearful attachment styles. Thus, it may be that the comfort secure individuals have in relationships is related to the tendency of these individuals to exhibit the characteristics critical to developing intimate relationships. This study did not distinguish among factual, emotional, and cognitive disclosure or between depth and frequency of disclosure.

In the second study, Grabill and Kerns (2000) observed participants engaging in a conversation with a same-gender friend about a topic that was meaningful to one or both of the participants. Participants completed self-report measures of disclosure, perception of empathic responsiveness of the other, and attachment style. The self-report measure of self-disclosure consisted of questions about how much the participant had disclosed facts, thoughts, and feelings, and how intimate the participant perceived the conversation to be. The participant's responses to these questions were averaged to create the self-report self-disclosure variable. The self-report measure of empathic

responsiveness assessed the speaker's perception of the listener's understanding, validation, and caring.

Trained observers also coded the conversations for disclosure and empathic responsiveness. Observed self-disclosure was rated on a five-point Likert scale, with "higher scores indicating more intimate disclosure," and "disclosure of feelings and personal information" being rated more intimate than disclosure of facts (Grabill & Kerns, 2000, p. 370). A score of 5 reflected both "great depth and detail" (p. 370). Observed empathic responsiveness was rated on a five-point Likert scale with higher scores reflecting more "verbal and nonverbal actions that communicated understanding, validation, and caring for the other person" (p. 371). All of the observed ratings significantly correlated with self-report measures of the same behavior. However, secure attachment style was correlated with self-report, but not observational coding measures, of self-disclosure and perception of empathic responding. The authors suggested that secure individuals may be more likely to "preferentially attend to, remember, and interpret" behaviors that are consistent with their schema of intimate relationships and, therefore, report more intimate behaviors than an outside observer (p. 375). This second study did not distinguish among factual, emotional, and cognitive disclosure or between depth and frequency of disclosure. In this study all three of the components identified in Reis and Shaver's (1988) definition of empathic responding were assessed, but a limitation of this measure was that one code was used to reflect the presence of all three behaviors.

Prior to Reis and Shaver's (1988) description of an interpersonal process model of intimacy, Morton (1978) compared self-disclosure in conversations of married couples to self-disclosure in conversations of opposite-sex strangers. He used an observational coding system to examine "descriptive intimacy" (disclosure of facts) and "evaluative intimacy" (disclosure of feelings and judgments). Both the couples and the strangers had discussions about both intimate and nonintimate topics. Each 10-second interval of discussion was classified in one of four categories: high descriptive intimacy and high evaluative intimacy, high descriptive intimacy and low evaluative intimacy, high evaluative intimacy and low descriptive intimacy, and low descriptive intimacy and low evaluative intimacy. Spouses exhibited a higher percentage of descriptive intimacy, with both low and high evaluative intimacy, than did strangers. Morton suggested that this finding may indicate that couples felt comfortable disclosing highly personal facts about both intimate and nonintimate topics. Morton's definition of evaluative intimacy includes both emotional and cognitive disclosure.

Previous research examining the components of Reis and Shaver's (1988) interpersonal process model of intimacy has produced conflicting findings. It is not clear from this research whether factual, emotional, or cognitive self-disclosure differ in their importance in predicting intimacy. In addition, no one has determined if all three components of empathic responding are necessary in order to achieve intimacy in an interaction. Previous studies have also confounded depth and frequency in their measurement of self-disclosure. Intuitively it would seem that disclosure of a highly personal nature would have the potential to result in greater intimacy than the disclosure

of many impersonal facts; hence, the present study examined the effect of depth of each type of self-disclosure on intimacy. The current study examined these issues using data from an observational coding system.

Observational Coding of Couple Behavior

There are a variety of issues that are important to consider when determining an effective approach to coding intimate behaviors including the current knowledge gained through coding systems, types of couple interactions that have been coded, strategies for measuring observed behaviors, approaches that may increase the content validity of coded data, and current deficits in the literature on observed couple behavior. The literature indicates that observational coding of couple behavior has led to a greater understanding of how couples interact. Researchers have found differences between distressed and nondistressed couples in affect, behavior, and sequences of behavior (Weiss & Heyman, 1990). A review of observational research on couple behaviors indicates that, when compared to nondistressed couples, distressed couples exhibit and respond to one another with more hostility, are more likely to continue hostile behavior throughout a conflict, engage in less positive behavior, and tend to engage in sequences of behavior in which one partner pursues the issue while the other withdraws from the conflict (Heyman, 2001).

Researchers have typically used coding systems to assess couple behavior and affect during problem-solving or social support discussions. During problem-solving discussions, couples talk about an issue about which they disagree, such as a financial or child-rearing problem. During social support discussions, couples talk about an issue

that is problematic for one partner but that is unrelated to the couple relationship, such as weight loss (Baucom & Kerig, 2004). Although observation of these types of discussions has led to increased understanding of couple behavior, these topics are only a small subset of the many types of topics about which couples interact. Very little is known about how couples behave when they are discussing relationship injuries. Dorian and Cordova (2004) were the first researchers to develop a coding system to examine behavior during relationship injury discussions. Their coding system is based on the theory that intimacy develops when one individual discloses something that risks interpersonal punishment and the partner reinforces this disclosure. They coded couples discussing a time when an individual's feelings were hurt by his or her partner. Using this system to examine the behavior of distressed and nondistressed couples, Dorian and Cordova found that nondistressed husbands and wives reinforced their spouses' disclosure more than distressed husbands and wives. They did not examine couples discussing relationship injuries that occurred outside of the couple relationship.

There are three primary strategies for measuring behaviors in observational coding systems. Microanalytic coding systems measure behaviors in small increments, such as every few seconds or after every statement. Macroanalytic coding systems assess behaviors more globally, with coders rating behaviors after watching the complete interaction. Coding systems can also combine these two approaches, by asking coders to divide the interactions into small increments and make global ratings of each increment (Baucom & Kerig, 2004; Weiss & Heyman, 1990). An advantage of microanalytic coding systems is that analyzing the behavior in very small increments can reveal

"complex patterns of interaction" that will not be detected in a global system (Notarius & Markman, 1989, p. 5). However, researchers often use global coding systems when they have identified particular behaviors they want to measure in an interaction.

In an article about the content validity of assessment instruments, Haynes, Richard, and Kubany (1995) pointed out that the content validity of a coding system depends on the type of interaction being coded. It is not appropriate to use a coding system that has been found to be valid for problem-solving discussions or social support discussions, unless the researcher expects to see the behaviors included in the coding system in the type of discussion being observed. Hence, in the current study, a coding system was developed to measure the behaviors we expected couples to exhibit in discussions about relationship injuries.

In an overview of the history and current status of observational coding of couple behavior, Weiss and Heyman (2004) commented on the role of theory in observational coding and the lack of research focused on understanding nondistressed couples. When researchers first began developing coding systems, they knew little about couple behavior. Instead of developing coding systems based on theories, researchers videotaped couple behavior and then recorded and measured the behaviors they observed. Although this may have been necessary at an early stage of studying couple behavior, Weiss and Heyman contend that one of the reasons that observational coding of couple behavior has not advanced as quickly in the past few years is that researchers are not developing coding systems to test theories of couple behavior. In addition to a

lack of coding systems based on theory, Weiss and Heyman asserted that observational coding research has not examined which behaviors lead to satisfied relationships.

Statement of the Problem

Although research has shown that intimacy is an important aspect of romantic relationships, there is little consensus about how to conceptualize intimacy. Reis and Shaver (1988) have proposed an interpersonal process model of intimacy, which posits that intimacy occurs when a speaker self-discloses and a listener responds empathically. Previous research on the model has not distinguished consistently among types of disclosure and between depth and frequency of disclosure. In addition, research has not consistently measured all of the components of Reis and Shaver's conceptualization of empathic responding. Moreover, researchers have not tested the interpersonal process model of intimacy using observational coding of couple behavior. The purpose of the current study was to test Reis and Shaver's interpersonal process model of intimacy using observational coding, building upon past research on both the interpersonal process model of intimacy and on observational coding of couple behavior.

The current study sought to clarify some of the findings of previous research on the interpersonal process model of intimacy. The study distinguished among factual, emotional, and cognitive self-disclosure. The study also measured depth, rather than frequency, of each type of disclosure. In addition, the study measured each component of Reis and Shaver's (1988) definition of empathic responding: understanding, validation, and caring.

This study also sought to build on the current literature on observational coding of couple behavior. It used a coding system developed specifically to test a theoretical model of intimacy. In contrast to observational coding systems which seek to identify the deficits of distressed couples, this study tested a model of how couples build intimacy. In the current study, couples were videotaped having discussions about situations during which their feelings were hurt by their partner and situations during which their feelings were hurt by someone other than their partner. In addition to increasing our knowledge about how couples interact during discussions of relationship injuries, the "hurt by other" situation allowed us to determine if couples respond differently to vulnerable disclosures about someone other than their partner, something that has not been previously studied.

Hypotheses

The current study examined the effects of self-disclosure and empathic responding on feelings of intimacy. Three hypotheses were examined:

H1: Higher levels of self-disclosure and empathic responding will predict greater feelings of intimacy in both the speaker and the listener.

H2: Emotional and cognitive self-disclosure, which provide an opportunity for the listener to understand and respond to the speaker's core self, will be stronger predictors of feelings of intimacy than behavioral self-disclosure.

H3: The relation of self-disclosure and empathic responding to intimacy will be greater in the high-threat condition than in the low-threat condition.

METHOD

Overview of Procedure

The data presented in the current study were collected as part of a multi-study project related to emotion regulation, attachment, and intimacy in couple relationships. The current study uses self-report and videotaped data collected from a sample of committed romantic couples. Couples were asked to engage in four videotaped discussions. In the first set of discussions, the low-threat condition, each member of the couple initiated a discussion about a time someone other than his or her partner hurt his or her feelings. In the second set of discussions, the high-threat condition, each member of the couple initiated a discussion about a time his or her partner hurt his or her feelings. After each discussion, both individuals completed measures of self-disclosure, empathic responding, and intimacy. Trained coders rated these videotaped discussions for speaker disclosure and listener empathic responding.

Participants

The participants in this study were one hundred and eight couples recruited from the Bryan and College Station, Texas community. Participants were randomly selected from the phone book and invited to participate in a study examining communication in couples. Participants were also given information about the study to give to acquaintances, and approximately 10% of the couples were recruited through this method. To be eligible for the study, participants had to be 18 years of age or older and in a cohabiting opposite-sex relationship for longer than six months. Couples were

entered into drawings for modest prizes, ranging in value from $5 to $10, as compensation for their participation.

Most of the couples in the current study were married (*n* = 95), and the remainder were cohabitating (*n* =13). The couples had been married an average of 13.5 years (SD = 13.6), with relationships ranging from cohabitating 6 months to being married 54 years. The average age of participants was 41 years (SD = 14.9) and participants had received an average of 16 years (SD = 2.7) of education. The sample was largely Caucasian (*n* = 198), with some Hispanic (*n* = 12), Asian (*n* = 4), and African-American (*n* = 2) participants.

Measures

Before engaging in the videotaped discussions, both partners completed a Measure of Hurt Feelings (see Appendix A). This measure was created for this study and asked each individual to write about (a) a situation in which his or her feelings were hurt by someone other than his or her partner, and (b) a situation in which his or her feelings were hurt by his or her partner. The participants were informed that they would share the situation with their partner in the videotaped discussions. The participants were asked to rate the degree to which their feelings were hurt on a scale from 1 to 10. Participants were asked to choose a situation that they would rate a 5 to 7, so that the situation would promote a discussion in which disclosure and empathic responding were likely to take place but which was not likely to cause intense emotional distress.

Following each videotaped interaction, each participant completed a Measure of Intimate Events (see Appendix B). The Measure of Intimate Events is a measure based

on Prager and Buhrmester's (1998) Interaction Record Form – Intimacy (IRF-I). The IRF-I is a 17-item measure which uses four-point Likert scales (1 = not at all true of this interaction; 4 = very true of this interaction) to assess self-disclosure, empathy, and intimacy following an interaction between two people (Lippert & Prager, 2001). In this study, the IRF-I was modified in order to separately assess speaker and listener perceptions of self-disclosure, empathic responding, and intimacy. Two questions from this measure were used to assess feelings of emotional intimacy after each interaction: "I feel closer to my partner following this interaction" and "This interaction felt intimate." A third item, "I feel more distant to my partner following this interaction," was considered for inclusion when reversed scored. However, including this item in the calculation of alpha, compared to including only the original two items in the calculation, reduced the alpha for both the speaker and the listener across conditions, and thus the third item was not included.

Intimacy was measured for males when they were speaking (alpha = .84) and when they were listening (.83), and for females when they were speaking (alpha = .85) and when they were listening (alpha = .78). A Shapiro-Wilk test of normality revealed that the intimacy variables were not normally distributed ($p < .01$). Following the procedure for data transformation outlined by Tabachnick and Fidell (2001), the data were transformed using both a square root and a log transformation. After examining the results of both of these transformations, the square root transformation was used because the data appeared to more closely reflect a normal distribution using this transformation.

The Couples' Intimate Behavior (CIB) coding system was developed for this study. It assesses depth of factual, emotional, and cognitive self-disclosure for the speaker in each interaction. The CIB also assesses the understanding, validation, and caring verbalized by the listener. The CIB measures each behavior on a 5-point Likert scale. It is a macroanalytic coding system, in which one rating of each behavior is made for the entire interaction. This data analytic approach seemed most appropriate for the focus and design of the current study for several reasons. Reis and Shaver (1988) posit that intimacy will increase if self-disclosure and empathic responding occur in an interaction, but that it is not necessary for an empathic response to follow every self-disclosure. In addition, each partner was asked to make a global assessment of intimacy following each interaction. The CIB allowed examination of the relation of global assessments of self-disclosure and empathic responding to the individual's global assessment of intimacy.

Design and Procedure

Couples were given the choice of completing the study at their home or at the couple research lab at Texas A&M University. The couples were first asked to complete a set of questionnaires not used in the current study. Then each member of the couple was asked to complete a Measure of Hurt Feelings about a time when someone other than his or her partner hurt his or her feelings. The couples then engaged in a 7-minute videotaped discussion in which one partner (the speaker) was asked to share with his or her partner (the listener) the situation about which he or she had written. The listener was instructed to respond however he or she wished. After the discussion, each partner

completed a Measure of Intimate Events. The couple then reversed speaker and listener roles and engaged in a second discussion, after which they each again completed a Measure of Intimate Events. This set of discussions comprised the "low-threat" condition.

In the second set of discussions, each partner completed a Measure of Hurt Feelings using a situation in which his or her partner hurt his or her feelings. The procedure used in this set of discussions was the same as the procedure used in the first set of discussions. Each member of the couple took turns acting as the speaker and the listener, and each member filled out a Measure of Intimate Events after each discussion. This second set of discussions comprised the "high-threat" condition.

Order effects were controlled for by alternating the gender of the speaker. In half of the couples, the male was the speaker first in the low-threat condition and the female was the speaker first in the high-threat condition. This order was reversed for the other couples. The low-threat condition always preceded the high-threat condition to minimize the possibility that discussions of the couple's own relationship injuries would contaminate the couple's discussions of hurtful interactions with others.

Trained coders used the Couples' Intimate Behavior (CIB) coding system to code each couple discussion. The coder first rated the speaker's factual, emotional, and cognitive self-disclosure. Then the coder watched the discussion a second time and rated the listener's understanding, validation, and caring. The order of discussions was randomized to control for potential order and carryover effects.

RESULTS

CIB Coding System

Before the coded data were used to test the interpersonal process model of intimacy, the reliability of the CIB coding system was examined. Heyman (2001) argued that analysis of reliability should be done at the level of measurement, even if separate behaviors are later combined into a composite score. Cronbach's alpha is recognized as an accepted measure of reliability in observational coding systems (Bakeman & Gottman, 1997), and an alpha of .70 or higher is regarded as demonstrating an acceptable level of reliability (Cortina, 1993; Clark & Watson, 1995). Using the data from interactions that were coded by five individuals, alphas were computed for each behavior in the coding system: factual disclosure = .86, emotional disclosure: = .90, cognitive disclosure = .82, understanding = .82, validation = .79, and caring = .92.

After examining the reliability of the CIB, we examined the reliability of each coder in order to exclude any unreliable data from further data analyses. The coder was considered to be reliable when his or her ratings of a particular behavior reached an alpha of .70 or higher with the first author's ratings. Each coder's reliability was assessed every two months and a coder's data for a behavior were not included in the final analyses until he or she had reached this criterion. Three of the five coders reached an acceptable level of reliability after the first two months of training and maintained adequate reliability until completion of the coding. Two of the coders were reliable on all codes except cognitive self-disclosure after two months of training. One of these coders reached reliability on cognitive self-disclosure after four months of training and

the other after six months. Both of these coders maintained reliability on all coding behaviors once they had reached it.

The three types of self-disclosure (factual, emotional, cognitive) and the three components of empathic responding (understanding, validation, caring) were predictor variables in this study. We evaluated the reasonableness of forming a linear composite of self-disclosure and of empathic responding as an average of the three types of self-disclosure and the three components of empathic responding, respectively. In regard to the types of self-disclosure, item-total correlations revealed that each type of self-disclosure was correlated in a positive direction with the measure of self-disclosure. The effects of removing a type of self-disclosure varied across gender and in no case did excluding a variable from the composite measure increase the alpha more than .002. The self-disclosure composite score was assessed for males (alpha = .71) and for females (alpha = .71).

In regard to components of empathic responding, item-total correlations revealed that each component of empathic responding was correlated in a positive direction with the composite measure of empathic responding. The effect of removing a component of empathic responding varied across gender and in no case did excluding a variable from the composite measure increase the alpha more than .08. The empathic responding composite score was assessed for males (alpha = .61) and for females (alpha = .52). Therefore, a decision was made to use composite scores in preliminary analyses and identify any significant main effects at an alpha level of .01. When main effects were

found for the composite score, individual scale component effects were identified at a level of .05.

Interpersonal Process Model of Intimacy

There are two potential sources of interdependence in the present study. One possible source of interdependence in these data results from each partner being involved in the same romantic relationship. For example, one partner's self-disclosure is not only the result of factors belonging to that partner, but is also influenced by the personal characteristics of his or her partner and by the relationship with the partner. The self-disclosure, empathic responding, and intimacy scores of each member in the relationship are likely to be more similar to one another than these scores would be from two people who are not in a relationship (Kenny, Kashy, & Cook, 2005). A second potential source of interdependence is that the data of each partner come from the same interaction. The scores of each individual in the interaction are influenced by the behavior of the other person participating in that interaction, so that the scores of the partners in the interaction are more similar to one another than are scores taken from two people who have not interacted with one another (Campbell & Kashy, 2002). Failure to consider the nonindependence of observations may result in biased significance testing, with the test being either too liberal or too conservative (Kashy & Snyder, 1995; Kenny, 1995). Therefore, the current study used hierarchical linear modeling (HLM) in order to account for the interdependence in the data.

Both a challenge as well as an opportunity when analyzing couple data is that an individual is influenced not only by his or her own behavior but also by the behaviors of

his or her partner (Kenny et al., 2005). Therefore, the current study examined both actor and partner effects. Actor effects occur if an individual's own behaviors influence his or her intimacy and partner effects occur if an individual's behaviors influence his or her partner's intimacy.

Cross-nesting. If individual behaviors were nested only in the couple relationship, the current data would have a simple hierarchical structure. Instead, the current data were cross-nested because individual behaviors were nested both within the couple and within the interaction. Variance in an individual's report of intimacy had the potential to be explained both by his or her membership in a particular couple and by the type of interaction. In order to determine if the data should be nested in the couple relationship, in the type of interaction, or in both, we explored the significance of variability in intimacy explained by both couple relationship and type of interaction, as suggested by Raudenbush and Bryk (2002). When nesting within couple and within interaction were examined simultaneously, results revealed significant variability in intimacy due to couple ($p < .01$) but no significant variability due to interaction ($p > .05$). Given that couple relationship, but not interaction, explained significant variance in reports of intimacy, individual data were nested solely in the couple relationship in subsequent analyses.

Data analysis using HLM. In the data analyses for this study, both Level 1 and Level 2 variables are described. For each analysis, the Level 1 equation specifies the individual behaviors that we hypothesized would explain significant variance in the outcome variable. Given that there are two partners per couple, in order to distinguish

between members for analyses, we followed the recommendation of Raudenbush, Brennan, and Barnett (1995) and specified separate models for males and females at Level 1. Additionally we examined whether there were significant random effects for each of the Level 1 variables. Significant random effects for a variable at Level 1 suggested that these variables differed significantly between couples. When significant random effects were found at Level 1, we allowed these variables to vary randomly at Level 2. Specifying random effects at Level 2 also allowed us to examine the effect of differences between individuals on reports of intimacy while accounting for variance attributable to their couple relationship. In every analysis there were significant random effects for male and female intercepts and so these were always allowed to vary randomly at Level 2.

Speaker intimacy. To examine the effect of self-disclosure and empathic responding on speaker intimacy, we fit a two-level model following the guidelines given for couple data by Raudenbush et al. (1995). The effect of self-disclosure and empathic responding on speaker intimacy was estimated at Level 1 using the following equation:

$$Y_i = (\text{male})_i[\beta_{M0i} + \beta_{M1i}(\text{actor disclosure}) + \beta_{M2i}(\text{partner empathic responding})]$$
$$+ (\text{female})_i[\beta_{F0i} + \beta_{F1i}(\text{actor disclosure}) + \beta_{F2i}(\text{partner empathic responding})] + e_i$$

with random effects at Level 2 for the male and female intercepts (See Table 1). Although we did not hypothesize that other variables would vary across Level 2 units, we tested for significance of random effects for all variables. In all cases, the results

were nonsignificant. When a significant effect for the composite score of self-disclosure or empathic responding was identified at a .01 level, each type of disclosure or of empathic responding was substituted into the equation in place of the composite score of the respective behavior and significant effects were identified at a .05 level.

Males' self-disclosure had a significant effect on their own reported level of intimacy, with more personal disclosure predicting greater levels of intimacy ($p < .01$). Further analyses revealed that greater factual and emotional disclosure ($p < .05$), but not cognitive disclosure, predicted higher levels of male intimacy. Women partners' empathic responding had no effect on males' report of intimacy above and beyond the effect of males' own disclosure.

Females' level of intimacy was not predicted by females' own disclosure, but was predicted by their male partner's empathic responding ($p < .01$). Females reported more intimacy when their partners displayed more empathic responding. Their male partner's understanding, validation, and caring each had main effects on females' level of intimacy ($p < .05$).

Although males' self-disclosure predicted their own intimacy, whereas females' self-disclosure did not predict their own intimacy, this difference between males and females did not reach the level of significance ($p > .05$). Females' intimacy was predicted by their male partner's level of empathic responding whereas males' intimacy was not, and the effect of partner empathic responding differed significantly between males and females ($p < .05$).

Listener intimacy. The effect of self-disclosure and empathic responding on listener intimacy was estimated at Level 1 using the following equation:

$$Y_i = (\text{male})_i[\beta_{M0i} + \beta_{M1i}(\text{actor empathic responding}) + \beta_{M2i}(\text{partner disclosure})]$$
$$+ (\text{female})_i[\beta_{F0i} + \beta_{F1i}(\text{actor empathic responding}) + \beta_{F2i}(\text{partner disclosure})] + e_i$$

with random effects at Level 2 for the male and female intercepts (See Table 2). Although we did not hypothesize that other variables would vary across Level 2 units, we tested for significance of random effects for all variables. The results were nonsignificant except for female partner disclosure ($p < .05$). We ran this model with and without random effects for this variable, and found that including random effects did not alter the estimates or standard errors of the main effects. Therefore, the random effects for this variable were not included in the following analyses for the sake of consistency and parsimony. When a significant effect for the composite score of self-disclosure or empathic responding was identified at a .01 level, each type of disclosure or of empathic responding was substituted into the equation in place of the composite score of the respective behavior and significant effects were identified at a .05 level.

When males were in the listening role, their intimacy was predicted by their own empathic responding ($p < .01$), with higher levels of empathic responding predicting more intimacy. Caring ($p < .05$), but not understanding or validation, had a main effect on males' reports of intimacy. Their female partner's level of disclosure had no

significant effect on males' reports of intimacy above and beyond the effect of their own empathic responding.

Females' intimacy was not predicted by their own level of empathic responding, but was predicted by their male partner's self-disclosure ($p < .01$). Further analyses revealed that females reported more intimacy when their male partners engaged in higher levels of factual and emotional ($p < .05$), but not cognitive disclosure.

The differences between the effects of self-disclosure and empathic responding on male and female reports of intimacy when they were listeners were examined for significance. Males' intimacy was predicted by their own empathic responding whereas females' intimacy was not, and this difference was significant ($p < .05$). Females' intimacy was predicted by the level of their male partner's disclosure whereas males' intimacy was not, and this difference was also significant ($p < .05$).

Interaction of self-disclosure and empathic responding. Reis and Shaver (1988) proposed that both self-disclosure and empathic responding were essential to the development of intimacy. Therefore, we examined whether the interaction of these two behaviors had an effect on levels of intimacy above and beyond the main effects of each behavior. The main effects were centered and the effect of the interaction of self-disclosure and empathic responding on speaker intimacy was estimated at Level 1 using the following equation:

$$Y_i = (\text{male})_i[\beta_{M0i} + \beta_{M1i}(\text{actor disclosure}) + \beta_{M2i}(\text{partner empathic responding}) + \beta_{M3i}(\text{actor disclosure*partner empathic responding})]$$

$$+ (\text{female})_i[\beta_{F0i} + \beta_{F1i}(\text{actor disclosure}) + \beta_{F2i}(\text{partner empathic responding}) + \beta_{F3i}(\text{actor disclosure*partner empathic responding})] + e_i$$

with random effects at Level 2 for the male and female intercepts. No significant interaction effects were found ($p > .05$). The Level 1 equation for listener intimacy was similar, with actor disclosure and partner's empathic responding replaced by actor empathic responding and partner disclosure. No significant interaction effects were found.

Effect of condition. In this study, speaker and listener intimacy were assessed in both a high-threat and a low-threat condition and one of the hypotheses was that the relation of self-disclosure and empathic responding to intimacy would be greater in the high-threat condition than in the low-threat condition. In order to examine whether the level of intimacy experienced by the listener or the speaker differed by condition, the following equation was used:

$$Y_i = \beta_{1i}(\text{male intercept}) + \beta_{2i}(\text{male condition}) + \beta_{3i}(\text{female intercept}) + \beta_{4i}(\text{female condition}) + e_i$$

with random effects at Level 2 for the male and female intercepts. Condition did not have a significant effect on speaker or on listener intimacy ($p > .05$). We also examined the interaction effect of condition and self-disclosure and of condition and empathic responding on speaker and listener intimacy. When females were speaking,

their level of disclosure was more predictive of their intimacy in the low-threat condition ($p < .05$), and their male partner's empathy was more predictive of their intimacy in the high-threat condition ($p < .05$). There was no effect of condition interaction terms on males' intimacy when they were the speaker or on either males' or females' intimacy when either was the listener.

DISCUSSION AND CONCLUSION

The findings of the current study provide support for the interpersonal process model of intimacy proposed by Reis and Shaver (1988), which posits that self-disclosure and empathic responding lead to feelings of intimacy. However, the results suggest that the influence of these behaviors may differ according to gender. Specifically, in this study, males' own disclosure and empathic responding predicted their level of intimacy, whereas females' intimacy was predicted by their partner's disclosure and empathic responding. The effect of each type of self-disclosure and component of empathic responding on intimacy was examined for these significant findings. When males were speaking, their factual and emotional disclosure significantly predicted their intimacy, whereas cognitive disclosure did not. As a listener, males' caring, but not understanding or validation, predicted their report of intimacy. When females were speaking, their male partner's understanding, validation, and caring predicted their report of intimacy. Females' listener report of intimacy was predicted by their partner's factual and emotional, but not cognitive disclosure. The interaction of self-disclosure and empathic responding did not predict intimacy above and beyond the main effect of self-disclosure and empathic responding, indicating no moderating effects. When intimacy levels were compared, intimacy after discussions about relationship injuries outside of the couple relationship did not differ from intimacy reported after discussions about relationship injuries that occurred within the couple relationship.

This study also examined the reliability of an observational coding system in assessing self-disclosure and empathic responding. To our knowledge, this is the first

study examining the interpersonal process model of intimacy using observational coding. Previous research on self-disclosure and empathic responding has confounded frequency and depth of disclosure and has not consistently measured each component of empathic responding. The results of this study provide preliminary evidence that the CIB coding system can be used to reliably measure the depth of different types of self-disclosure and of components of empathic responding.

The findings of this study suggest that, although self-disclosure and empathic responding are important behaviors in the development of intimate feelings for both men and women, the manner in which these behaviors influence intimacy differs by gender. Previous research on gender differences in the effects of these behaviors is limited and mixed. Some studies have found that the effect of self-disclosure on intimacy does not differ between genders (Lippert & Prager, 2001; Merves-Okin et al., 1991). In contrast, Manne et al. (2004) found that partner-disclosure, but not self-disclosure, predicted intimacy in females, but that both partner- and self-disclosure predicted intimacy in males. Laurenceau et al. (2005) found that self-disclosure was a stronger predictor of intimacy in men compared to women, but found no differences between the genders in the effect of partner-disclosure on intimacy. Laurenceau et al. (2005) is the only previous study to identify differences between men and women on empathic responding. They found that perceived partner responsiveness was a more important predictor of intimacy for women than for men. No previous study has examined the effect of one's own empathic responding on one's own intimacy. The design and measurement approach of these previous studies vary widely and so it is not clear which factors may

account for the different results among these studies. Two important ways in which the current study differed from these previous studies is that it used observational, not self-report, measures of self-disclosure and empathic responding and, instead of confounding depth and frequency of self-disclosure, this study assessed depth of self-disclosure. It may be that the effect of observed behaviors differs from the effect of perceived behaviors and the effect of depth of disclosure differs from the effect of frequency of disclosure in predicting intimacy.

Differences in information processing may provide one explanation for the finding that males' own behaviors are predictive of their intimacy, whereas females' intimacy was predicted by their partner's behaviors. Previous research has found that females are more likely than males to process information in terms of their relationship (Sullivan & Baucom, 2005). Men are more likely to define themselves as separate from others, compared to women who tend to include others as part of their definition of self (Cross & Madson, 1997). It may be that men are more likely to focus on and, therefore, be influenced by, their own behavior. In contrast, women, who process information in terms of their relationship, may be more likely to focus on and be influenced by their partner's behavior.

According to Reis and Shaver (1988), cognitive and emotional disclosure allow the individual to reveal more personal aspects of himself or herself than factual disclosure and, therefore, cognitive and emotional disclosure should be more predictive of intimacy. In partial support of the interpersonal process model of intimacy, emotional intimacy was predictive of intimacy. However, factual, and not cognitive, disclosure

was also predictive of intimacy. Previous research on the influence of types of disclosure on intimacy is mixed. Laurenceau et al. (1998) found that emotional disclosure predicted intimacy, but factual disclosure did not. Lippert and Prager (2001) found that both disclosure of facts and disclosure of emotions were predictive of intimacy. In both of these studies, disclosure was assessed using a self-report measure and the measure confounded depth and frequency of disclosure. In the current study, couples were discussing information about hurt feelings and so it may be that factual information disclosed during these interactions was particularly likely to elicit feelings of intimacy because the individual was talking about a time when he or she was in a vulnerable situation. The effect of cognitive disclosure on intimacy, as a disclosure distinct from other types of disclosure, has not been explored in previous research. It may be that emotional disclosure is critical to feelings of intimacy and that men who disclosed very personal thoughts did so instead of disclosing emotions, leading to less intimate feelings in both themselves and their wives. Many studies have examined cognitive disclosure only as one component of an average disclosure variable, and the current finding that cognitive disclosure was not related to intimacy suggests that it may be important to analyze each type of self-disclosure separately in addition to analyzing the effect of an average disclosure variable.

The findings of the current study also suggest that various components of empathic responding may influence intimacy in men and women differently. Males' own caring was predictive of their intimacy, whereas their understanding and validation were not. Men may feel more effective in responding to their partner's vulnerability

and, therefore, closer to their partner when they express concern for their partner rather than just understanding and acceptance of their partner's disclosure. Women felt closer to their partners when their partners exhibited understanding, validation, and caring, providing support for the interpersonal process model of intimacy which suggests that each of these empathic behaviors is important for the experience of intimacy.

The support for the hypothesis that the relation of self-disclosure and empathic responding to intimacy would be greater in the "hurt by partner" condition than in the "hurt by other" condition was limited and mixed. Females' partner's empathic responding was more predictive of their intimacy in the high-threat condition than in the low-threat condition. This finding suggests that women feel particularly close to their partner if their partner is empathic to women's disclosure about being hurt in the relationship. Females' self-disclosure was predictive of their intimacy in the low-threat condition, but not in the high-threat condition. Women may feel closer to their partner after disclosing an injury that occurred outside of the relationship, but the same personal disclosure may feel more threatening and, therefore, not be related to intimacy in discussions about injuries that occurred within the couple relationship. The couples were asked to discuss an incident in which their hurt feelings ranged from 5 to 7 on a scale of 1 to 10 for both the "hurt by other" and "hurt by partner" condition. This instruction may have limited the differences between the two conditions.

There are several limitations of this study. The design of this study allowed analysis of intimacy in both the speaker and listener role, but may have constrained couples' behavior unnaturally. Couples may, at times, engage in discussions in which

the topic is more about one individual than another, but it is likely that couples often engage in reciprocal disclosure and responding during a single interaction. In addition, it is possible that the partners did interact reciprocally during the interaction, with the "listener" disclosing and the "speaker" responding empathically, but this information was not considered in the coding process.

Another limitation of this study is that couples were not asked if they had discussed and reached a resolution about the topic previously. If a partner had already disclosed the information, then it is possible that repeating the disclosure would not lead to greater intimacy. Future research could control for this possible confound. Another variable that was not controlled for was length of relationship. It may be that intimacy processes vary across relationship stages. Couples who have been together for a long time may rely on more implicit and less overt behaviors in order to foster intimacy, and so it will be important for future research to examine this possibility. Variables such as attachment style and emotional regulation may also moderate the relation between self-disclosure and empathic responding and intimacy, and future research in our lab will examine these variables.

This model may also vary across clinic and community samples. Discussions of hurt feelings in community couples may evoke emotions limited to the actual incident and, therefore, provide an opportunity for resolution of the issue and greater intimacy in the couple relationship. Discussions of hurt feelings in clinic couples may trigger more intense emotional responses that are based on a history of hurtful exchanges that have occurred in the relationship, and so it may be less likely for these discussions to result in

intimacy in clinic couples. However, it may also be that self-disclosure and empathic responding have a stronger relation to intimacy in clinic couples compared to community couples. Community couples may have more exchanges in which they engage in disclosure and empathic responding compared to clinic couples. If clinic couples are able to share an exchange in which both disclosure and empathic responding occur, the novelty of this type of interaction may lead to increased feelings of intimacy. Given that a lack intimacy is a common presenting complaint in clinic couples (Geiss & O'Leary, 1981), it is especially important to examine the development of intimacy in these couples.

The findings of the current study suggest that the CIB coding system can be used to reliably assess self-disclosure and empathic responding behaviors. This is the first study in which this coding system has been used and cross-validating it using other samples will be an important focus of future research. The coding system also does not assess nonverbal behaviors, and the role that nonverbal behaviors play in communication suggests that our understanding of intimacy would be improved by future studies which examine the role of nonverbal behaviors in the development of intimacy. In addition, future research could examine whether a couple's actual behaviors differ from their perceived behaviors in predicting intimate feelings.

There are several possible clinical implications of this study. Communication training, a common component of cognitive-behavioral couple therapy, assists couples in learning skills for and distinguishing between discussions in which the purpose is to problem-solve and discussions in which the purpose is to communicate information and

feelings (Epstein & Baucom, 2002). The results of this study may indicate that distressed couples whose primary complaint is a lack of intimacy, may benefit not only from learning the skills to communicate information effectively but also from having emotional disclosure discussions more frequently. Couples may be taught the importance of regular discussions in which they engage in personal disclosure and empathic responding and may also be encouraged to have these types of discussions after relationship injuries occur. Such discussions may lead to greater understanding, compassion, and reconciliation of past relationship injuries in couples. The results of this study also suggest that certain couple therapy approaches may be particularly effective in treating intimacy problems in couples. A primary component of emotionally-focused therapy is the disclosure and exploration of emotions (Johnson & Denton, 2002) and affective reconstruction involves exploring current emotions and connecting these to previous relationships (Snyder & Schneider, 2002). Both therapeutic approaches encourage disclosure of personal emotions and information and also assist the listening partner to respond empathically to these disclosures. Further research is needed to determine if these approaches to therapy may be more effective than other approaches in treating intimacy deficits in couple relationships.

This study furthers our understanding of the behaviors that lead to intimacy and also provides support for a coding system that can be used to further explore and understand couple behavior. Given the importance of intimacy in romantic relationships, future research is necessary to further examine the findings and build on the limitations of this study. Future research that examines gender differences in

intimacy, the effects of different types of self-disclosure, and the effects of perceived versus observed behaviors on intimacy, may be especially helpful in improving our understanding of the process through which intimacy develops. Such research can be used to assist couples in building and sustaining intimacy in their relationship.

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APPENDIX A

Measure of Hurt Feelings – "Hurt By Someone Else"

Please think of a time when your feelings were hurt by someone other than your partner (also not by someone closely associated with your partner – such as your partner's best friend or family member). Rate your level of hurt feelings on a scale from 1 to 10, indicating the degree to which your feelings were hurt and the significance of the situation for you. Please choose a topic that you rate as a 5, 6, or 7. Next, write a paragraph about the incident, particularly noting the emotion you experienced during the incident.

1	2	**3**	4	**5**	6	**7**	8	9	**10**
feelings were not hurt at all		**feelings were hurt somewhat, but I got over it pretty quickly**		**feelings were hurt moderately**		**feelings were hurt considerably, I was very upset**			**feelings were hurt extensively, I am still hurt**

Measure of Hurt Feelings – "Hurt By Partner"

Please think of a time when your feelings were hurt by your partner. Rate your level of hurt feelings on a scale from 1 to 10, indicating the degree to which your feelings were hurt and the significance of the situation for you. Please choose a topic that you rate as a 5, 6, or 7. Next, write a paragraph about the incident, particularly noting the emotion you experienced during the incident.

1	2	**3**	4	**5**	6	**7**	8	9	**10**
feelings were not hurt at all		**feelings were hurt somewhat, but I got over it pretty quickly**		**feelings were hurt moderately**		**feelings were hurt considerably, I was very upset**			**feelings were hurt extensively, I am still hurt**

APPENDIX B

Measure of Intimate Events – Speaker Version

***Please indicate how true the following statements are, SPECIFIC TO THIS INTERACTION*:**	Not at all true	Not very true	Moderately true	Very true
1. I told my partner about my feelings or emotions.	O	O	O	O
2. My partner listened attentively during this interaction.	O	O	O	O
3. The interaction felt pleasant.	O	O	O	O
4. I shared something personal or private during this interaction.	O	O	O	O
5. I feel closer to my partner following this interaction.	O	O	O	O
6. I was critical of my partner.	O	O	O	O
7. I felt safe and comfortable opening up to my partner.	O	O	O	O
8. I feel more distant to my partner following this interaction.	O	O	O	O
9. My partner expressed positive feelings toward me.	O	O	O	O
10. During the interaction, I felt anxious, like I was walking on eggshells.	O	O	O	O
11. We quarreled during this interaction.	O	O	O	O
12. I expressed a need, wish, or want.	O	O	O	O
13. My partner was supportive and caring during the interaction.	O	O	O	O
14. This interaction felt intimate.	O	O	O	O
15. My partner understood me.	O	O	O	O
16. My partner was critical of me.	O	O	O	O
17. It was difficult for me to open up to my partner.	O	O	O	O

Measure of Intimate Events – Listener Version

***Please indicate how true the following statements are, SPECIFIC TO THIS INTERACTION*:**	Not at all true	Not very true	Moderately true	Very true
1. My partner told me about his/her feelings or emotions.	O	O	O	O
2. I listened attentively during this interaction.	O	O	O	O
3. The interaction felt pleasant.	O	O	O	O
4. My partner shared something personal or private during this interaction.	O	O	O	O
5. I feel closer to my partner following this interaction.	O	O	O	O
6. I was critical of my partner.	O	O	O	O
7. My partner felt comfortable revealing his/her hurt feelings to me.	O	O	O	O
8. I feel more distant to my partner following this interaction.	O	O	O	O
9. I expressed positive feelings toward my partner.	O	O	O	O
10. During the interaction, I felt anxious, like I was walking on eggshells.	O	O	O	O
11. We quarreled during this interaction.	O	O	O	O
12. My partner expressed a need, wish, or want.	O	O	O	O
13. I was supportive and caring during the interaction.	O	O	O	O
14. This interaction felt intimate.	O	O	O	O
15. I believe I understood my partner.	O	O	O	O
16. My partner was critical of me.	O	O	O	O
17. My partner shared his/her true feelings during the interaction.	O	O	O	O

APPENDIX C

Table 1

Speaker Intimacy

Fixed Effect	Coefficient	Standard Error	P-Value
Male Intercept, β_{M0}	3.59	0.02	0.000
Male Actor Disclosure, β_{M1}	0.06	0.02	0.005
Male Partner Empathy, β_{M2}	0.01	0.02	0.740
Female Intercept, β_{F0}	3.66	0.02	0.000
Female Actor Disclosure, β_{F1}	-0.02	0.02	0.444
Female Partner Empathy, β_{F2}	0.12	0.03	0.000

Table 2

Listener Intimacy

Fixed Effect	Coefficient	Standard Error	P-Value
Male Intercept, β_{M0}	3.61	0.02	0.000
Male Actor Empathy, β_{M1}	0.09	0.03	0.002
Male Partner Disclosure, β_{M2}	0.01	0.03	0.772
Female Intercept, β_{F0}	3.68	0.02	0.000
Female Actor Empathy, β_{F1}	0.02	0.03	0.628
Female Partner Disclosure, β_{F2}	0.80	0.03	0.015

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